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United States Patent [19]

Thompson et al.

[11] **Patent Number:** **6,045,930**[45] **Date of Patent:** **Apr. 4, 2000**[54] **MATERIALS FOR MULTICOLOR LIGHT EMITTING DIODES**

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Related U.S. Application Data

[63] Continuation of application No. 08/771,815, Dec. 23, 1996, abandoned, which is a continuation of application No. 08/814,976, Mar. 11, 1997, abandoned.

[51] **Int. Cl.⁷** **H05B 33/13**

[52] **U.S. Cl.** **428/690; 428/691; 428/917; 313/504; 313/506**

[58] **Field of Search** 428/690, 691, 428/917; 313/504, 506

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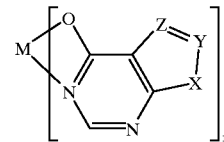
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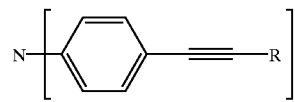
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[57] **ABSTRACT**

Disclosed herein are organic light emitting devices in which emitting layers (EL) comprise a suitable receiving compound according to Formulas I and II:



wherein M is an ion of a divalent or trivalent metal atom, wherein n=3 when M is trivalent, and n=2 when M is divalent, wherein the metal atom is selected from the group consisting of aluminum, gallium, indium, and zinc, and wherein X, Y, and Z are each individually and independently C or N, such that at least two of X, Y and Z are N; and



wherein R is alkyl, phenyl, substituted alkyl, substituted phenyl, trimethylsilyl, or substituted trimethylsilyl.

Also disclosed are OLED's utilizing device elements comprising the above compounds and display devices based on those OLED's.

11 Claims, 5 Drawing Sheets

